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one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

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three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

A

B

C

D

E

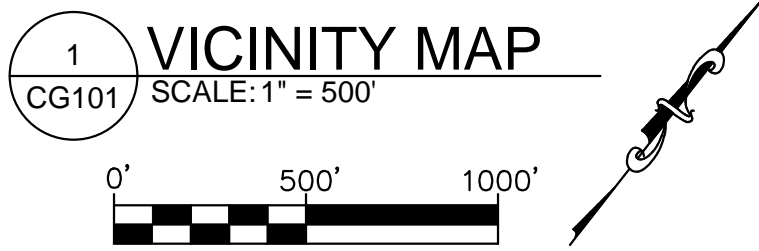
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SALT LAKE CITY VAMC

500 FOOTHILLS DRIVE

PROJECT #660-338

E85 FUELING STATION



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- CONDUIT AND LANDSCAPE PLANS

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

Scale: 1"=20'-0"

<div>Revisions:</div> <div>Date</div>	<div>CONSULTANTS:</div>	<div></div>	<div>ARCHITECT/ENGINEERS:</div> <div><div>Aegis Engineering, Inc.</div><div>A Veteran Owned Small Business</div><div>10940 South Parker Road Ste. 199 Parker, Colorado 80134 (720)259-0749</div></div>
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# Construction Standards for New and Existing Areas Containing Information Systems Equipment and/or Wiring

Construction Documents Compliant	THESE STANDARDS APPLY TO THE FOLLOWING: COMPUTER ROOMS, TELEPHONE SWITCH ROOMS, COMMUNICATIONS/DATA CLOSETS CONTAINING IT EQUIPMENT AND/OR WIRING
	<b>1 Physical Access</b>
YES__NO__NA__	a. Windows with access to facilities that contain information systems, below 12 m (40 ft.) from ground level or the roof of a lower abutment, or less than 7.5 m (25 ft.) from windows of an adjoining building, or accessible by a building ledge leading to
YES__NO__NA__	b. Windows that require security mesh screening, the security screen mesh consists of #304 stainless steel woven mesh 0.7 mm (0.028 in.) wire diameter, with tensile strength of 15 kg/mm (800 pounds per lineal inch).
YES__NO__NA__	c. Doors to data communications areas containing information systems equipment and/or wiring shall be 45 mm (1-3/4 in.) solid core hardwood or hollow steel construction.
YES__NO__NA__	d. Dutch (a door divided horizontally such that the bottom half may remain shut while the top half opens) or half doors are not permitted in data communications areas containing information systems equipment and/or wiring.
YES__NO__NA__	e. Removable hinge pins on door exteriors shall be retained with set pins or spot-welded, preventing their removal.
YES__NO__NA__	f. Where mechanical lock systems are used, installed lock sets allow for single motion egress (user must make only one motion in order to open a door, typically by turning a knob or pushing a lever or attached bar) to exit.
YES__NO__NA__	g. For glass doors or doors with glass panes that have mechanical lock systems and are NOT set in steel frames, one of the two locks a jimmy proof rim dead lock.
YES__NO__NA__	h. Doors that have mechanical lock systems shall be fitted with a lock that is contained within the door, NOT attached to the surface of the door.
YES__NO__NA__	i. For doors that have mechanical lock systems, the day lock on the main door shall be automatically locking, with a minimum 19 mm (3/4 in.) dead bolt and inside thumb latch.
YES__NO__NA__	j. Electronic (magnetic) locking systems include a "request to exit" sensor and a "push to exit" manual lock release switch.
YES__NO__NA__	k. Interstitial (space between two parts or areas) overhead areas, which may enable entry into a secure room from an unsecured room, must be barricaded by the installation of a suitably secure partition which prevents "up and over" access.
YES__NO__NA__	l. Interstitial areas beneath raised floors, which may enable entry into a secure room from an unsecured room, must be barricaded by the installation of a suitably secure partition which prevents access.
YES__NO__NA__	m. Ventilation grills on doors and air circulation ducts that exceed 0.06 m <sup>2</sup> (100 square inches) and may enable entry into a secure room from an unsecured room must be reinforced to prevent their removal from outside the room.
YES__NO__NA__	n. Other possible access means, such as dumbwaiter shafts, roof or wall ventilator housings, trapdoors, etc., shall be secured by appropriate means.
YES__NO__NA__	o. Room door lock keys and day lock combinations must NOT be mastered (as defined in VHA Supplement, MP-3, Part I, Chapter 2, Maintenance and Operations).
	<b>2 Intrusion Detection</b>
YES__NO__NA__	a. There must be an intrusion detection system.
YES__NO__NA__	b. The intrusion detection equipment must operate on principles OTHER THAN narrow beam interception, door contacts, microwave, or photoelectric eye.
YES__NO__NA__	c. The intrusion detection equipment must have both an internal, automatic charging DC standby power supply and a primary AC power operation.
YES__NO__NA__	d. The intrusion detection equipment must have a remote, key operated activation/deactivation switch installed outside the room and adjacent to the room entrance door frame and/or a central alarm ON-OFF control in the security guard office.
YES__NO__NA__	e. The intrusion detection equipment must have an automatic reset capability following intrusion detection.
YES__NO__NA__	f. The intrusion detection equipment must have a local alarm level of 80 dB (min) to 90 dB (max) within the configuration of the protected area?
YES__NO__NA__	g. The intrusion detection equipment must have an integral capability for the attachment of wiring for remote alarm and intrusion indicator equipment (visual or audio)?
	<b>3 Electrical Safety/Security</b>
YES__NO__NA__	a. The area containing information systems must have an emergency electrical shutoff switch.
YES__NO__NA__	b. The emergency shutoff switch shall be easily located and in plain sight.
YES__NO__NA__	c. The emergency shutoff switch shall be protected by a plastic cover to prevent accidental activation.
YES__NO__NA__	d. The site shall provide a long-term alternate power supply for the information system.
YES__NO__NA__	e. The site must consistently provide an emergency power capability for the information system on an ongoing basis.
YES__NO__NA__	f. The site must provide a short-term uninterruptible power supply (UPS) to facilitate an orderly shutdown of the information system in the event of a primary power source loss.
YES__NO__NA__	g. The site must employ an automatic emergency lighting system that activates in the event of a power outage.
YES__NO__NA__	h. The automatic emergency lighting system must properly cover emergency exits and evacuation routes.
	<b>5 Fire Safety/Security</b>
YES__NO__NA__	a. The area containing information systems must employ fire detection devices/systems that activate in the event of a fire.
YES__NO__NA__	b. The area containing information systems must employ fire extinguishers in accordance with site policy.
YES__NO__NA__	c. Fire extinguishers must be in obvious locations and easily accessible.
	<b>6 Temperature/Humidity</b>
YES__NO__NA__	a. Temperature and humidity sensors must exist in areas containing information systems.
	<b>7 Water damage/security</b>
YES__NO__NA__	a. No water pipes may be located in the ceiling above the information system.
YES__NO__NA__	b. No bathrooms, kitchens, or other facilities with running water may be positioned above the information system.
YES__NO__NA__	c. Facilities that contain information systems must have a raised or false floor, and water sensors located below the floor.
	<b>8 Location of information systems</b>
YES__NO__NA__	a. The site positions information system components within the facility to minimize potential damage from physical and environmental hazards.

INFORMATION RESOURCE MANAGEMENT

INFORMATION SECURITY OFFICER

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

Scale: 1"=20'-0"

Revisions:	Date	CONSULTANTS:	ARCHITECT/ENGINEERS:	Drawing Title SECURITY CHECKLIST	Project Title SLC E85 FUELING STATION	Project Number 660- 338	Office of Construction and Facilities Management
				Approved Project Director	Location VAMC SALT LAKE CITY UT	Building Number 38	
				VAPAHCs PLANNING AND ENGINEERING	Date 10 OCT 13	Checked HALL	
					Drawn MARINE	Dwg. 2 of 12	



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Infectious Control Construction Precautions			
Class I	1. Execute work by methods to minimize raising dust.	4. Worker traffic routes should minimize contact with patients.	
	2. Immediately replace ceiling tiles removed for inspection.	5. Minimize exposure of patients to construction and maintenance.	
	3. Transportation route or storage for clean supplies not near contaminated materials.		
Class II	In Addition to Class I Precautions:		8. Wet mop area daily & place "back" mats at all entrances/exits. Refresh back mats frequently (at least daily).
	1. Consult Infection Control Nurse prior to beginning work.	9. Use HEPA vacuum to capture dust during dust-producing work.	
	2. Educate VA staff regarding construction activity.	10. Remove and replace wet ceiling tiles if the porous type.	
	3. Block & seal air vents before starting.		
	4. Coordinate air filter maintenance with Operations.	11. If ceiling tiles are nonporous, remove and clean with hospital approved disinfectant and dry before replacement.	
	5. Contain area to one room with walls from floor to ceiling. Vacuum wall barrier and door barrier.	12. Use only designated elevators (e.g. utility) for debris removal.	
	6. Close non-access doors and duct tape frames and doors.		
Class III	In Addition to Class I and II Precautions Above:		
	1. Consult Infection Control Nurse prior to beginning work.	Prior to Patient Occupancy:	
	2. Install dust partitions (including work in ceiling) prior to start. Partitions must be well-sealed from floor to ceiling. Plastic seams must be sealed.	Vent system cleaned & balanced after completion of construction.	
	3. Remove dust partitions carefully to minimize spread of dust & dirt.	Construction area thoroughly wet mopped and disinfected.	
	4. Met debris-removal chutes & dumpsters.	Check room temperatures and adjust if needed.	
	5. Assure adjacent air filtering systems are functioning.		
Class IV	In Addition to Class I, II, and III Precautions Above:		
	1. Consult Infection Control Nurse		
	2. Relocate patients to area remote from construction area.		
6. Close non-access doors and duct tape frames and doors.			

INFECTION CONTROL DURING CONSTRUCTION	
<b>Design Issues:</b>	<b>Area-Specific Design Guidelines:</b>
HVAC: Bottom of outdoor air intakes serving central system 6 feet above ground or 3 feet above roof	<b>OR &amp; Delivery Room:</b> air supply from ceiling outlets near center of work area. Returns (at least 2 & far apart as feasible) near floor.
Exhaust system above roof and 75 feet from air intake	<b>Water:</b> No floor drains.
Fresh air intakes 25 feet from exhaust outlets of vent system, combustion equip. stacks, med/surg vacuum system, plumbing vents, or area near vehicle exhaust or other fumes.	<b>Isolation Rooms:</b> Negative Pressure: 12 ACH Exhaust to outside or recirculated after HEPA filtration. Separate toilet, bathtub (or shower) & sink. Adequate room for handwashing, gowning & storage of clean & soiled materials.
Carpet: Avoid in clinical areas (including hallways). Never in areas of frequent spillage or heavy soilage (ORs, ICU's & Labs)	<b>Sinks:</b> Foot, knee, or sensor control units when risk of touch contamination (ex. OR)
Water: Mains, branch mains, risers, and branches to a group of fixtures have stop valves	<b>AIR in OR's:</b> Must have at least 90% filters Anesthetic exhaust grills: may be in ceiling
No built-in soap dispensers	<b>BMTs or Protected Environment Rooms:</b> HEPA filtered.
Adequate room for single-use paper towel dispensers & waste disposal	<b>BMT or Solid Organ Transp:</b> Positive Pressure: > 12 ACH Anteroom(s) recommended for all rooms (at least 1 room for patient with airborne infection). Best (air flow): Hallway negative to anteroom & positive to patient room Rooms well sealed and HEPA filtered.
Floor drains should be avoided	
Sinks: Easily accessible; nearby surfaces are nonporous to resist fungal growth	
Cooling Towers: New: Direct tower drift away from air intake system. Operational: Drift eliminators present & biocides use regularly	

INFECTION CONTROL	EMERGENCY MANAGEMENT
SAFETY OFFICER	VA POLICE
AFGE Representative	GEMS COORDINATOR
PATIENT SAFETY	CONTRACTING OFFICER
ENERGY ENGINEER	

Infection Control Risk Assessment for Construction				
Project Name / EWO Description:		Project # / EWO #		
Location of Activity:		Start Date:		
Project Manager:		Contractor:		
Project Manager Phone #:		Contractor Phone #:		
STEP #1: Select Risk Group Below and Mark Bottom of Column		ICN Phone #: ext. 1708		
A) INFECTION CONTROL RISK GROUPS				
Group 0	Group 1	Group 2 - Medium Risk	Group 3 - Medium High Risk	
Lowest Risk	Low Risk	Laboratories	Emergency Room (ECU)	
Nonmedical	Office Areas	Imaging	Post Anesthesia Care	
associated spaces	(associated with patient activity)	Acute Medicine (2 East, 2 North)	All ICUs	
		B.2	Out Patient Clinics	
		B.3 Inpatient Mental Health Ward	Out Patient Surgery	
		Cardiology	Patient Kitchen & Dining	
		Decontamination	Pharmacy (In & Out Patient)	
		Dental	PT / OT	
		Distribution	Public Corridor (patient activity)	
		G.I. Lab	Dialysis Unit	
		Hotel	Pharmacy / Prep (inpatient)	
STEP #2: Select Activity Type Below:				
B) CONSTRUCTION ACTIVITY TYPES:				
Type A Inspection and Non-Invasive Activities, includes but is not limited to, manipulation of ceiling tiles, painting (but not sanding), wallcovering, electrical trim work, minor plumbing, installation of telephone and computer cabling, and activities which do not (1) generate dust or (2) require cutting of walls.				
Type B Small scale, short duration activities which create minimal dust. Includes, but is not limited to, (1) access to chase spaces, (2) cutting of walls or ceilings, where dust migration can be controlled.				
Type C Any work which generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies. Includes, but is not limited to, (1) sanding of walls for painting or wall covering, (2) removal of floorcoverings, (3) multiple ceiling panels and (4) casework, (5) new wall construction, (6) minor duct work or (7) electrical work above ceilings, (8) major cabling activities, and (9) any activity which can be contained within a single workshift.				
Type D Major demolition and construction projects. Includes, but is not limited to, (1) activities which require consecutive work shifts, (2) requires heavy demolition or (3) removal of a complete cabling system, (4) new construction, and (5) any activity which cannot be contained within a single workshift.				
STEP #3: Determine Class of Precautions Using Matrix Below:				
CONSTRUCTION ACTIVITY/INFECTION CONTROL MATRIX TO DETERMINE CLASS				
** ICN must be consulted when the assessment indicates that Class II, III, or IV precautions are required.				
Risk Level	Construction Activity Type			
	Type "A"	Type "B"	Type "C"	Type "D"
Group 0	Refer to OSHA Requirements	Refer to OSHA Requirements	II	II
Group 1	I	I	II	III
Group 2	I	II	III	IV
Group 3	I	II	III / IV	IV
Group 4	II	III	III / IV	IV

Project Name and Number:	YES/NO	INTERIM LIFE SAFETY MEASURES ASSESSMENT													
		A) Daily Emergency Forces / Implement Fire Vacon	B) Post-surgery identifying location of alternate exits	C) Special measures	D) Inspect exits in affected area daily	E) Ensure fire alarm and detection systems or other life safety equipment	F) Additional fire-fighting equipment	G) Temporary construction barriers	H) Hazard evaluation of bags, grounds, equipment	I) Entrance storage, baggage, and debris removal	J) Additional training on use of fire-fighting equipment	K) Conducting 1 Additional Fire Drill Per Shift in Area	L) Inspect, Test, Document temporary systems monthly	M) Education of staff, staff, construction hazards, USAs	
Patient room door latching problem															
Lacking a code complying fire or smoke barrier															
Fire exit stairs discharge improperly															
Excessive travel distance to an approved exit															
Lack of two remote exits															
Nonconforming building construction type															
Improperly protected vertical openings															
Large penetrations in fire or smoke barriers															
Corridor walls do not extend to the structure (or to drop ceiling smoke seal)															
Hazardous areas not properly protected															
Blocking off an approved exit															
Rerouting emergency room traffic															
Major renovation of an occupied floor															
Replacing fire alarm system (out of service) > 4 hrs. / 24 hr. period															
Installing a sprinkler system (out of service) > 4 hrs. / 24 hr. period															
Significantly modifying smoke or fire barrier walls															
Adding an addition to an existing structure															
Taking a fire alarm system off-line															
Taking a sprinkler system offline															
Disconnecting alarm devices															
Other															
Additional Assessment Notes:															
Assessment Performed by:															
Safety Officer Review:															

Construction Safety Risk Assessment Checklist, VA Salt Lake City Healthcare System						
Project Name:		Hazard Likelihood:		High: 76% - 100%		
Project Number: 660-		Severity:		Medium: 51% - 75%		
Date:		Mitigation Needed?		Low: 0% - 50%		
Project Manager:		Y/N				
Identify Hazards	Evaluator	Is Hazard Likely? H-M-L	Severity H-M-L	Mitigation Needed? Y/N	Mitigation Strategies	Mitigation Strategies Implemented?
Hazard Communication					MSDS required to be maintained on site by contractor	
Respiratory Protection					respiratory protection required when air debris present	
Personal Protective Equipment					hearing protection: Steel toed boots, clothing when required.	
Fire Protection					contractor required to follow VA hot work permit procedures & VA Interim Life Safety Measure	
Traffic Control & Site Security					Work affecting traffic flow or site security must be coordinated with VA	
Wire Rope and Rigging Equipment					OSHA Procedure to be followed	
Demolition					Any work causing noise or vibration to Interior Of Medical Center must be coordinated with VA	
Hand and Power Tools					OSHA Procedure to be followed	
Electrical					All hot work on electrical systems must receive prior approval by VA	
Lockout/ Tagout					Lockout/tagout procedure required in contractor submitted Safety plan (pre-construction)	
Welding and Cutting					VA signed hot work permit required to be obtained by contractor	
Confined Spaces					OSHA Procedures & VA Confined Space Policy must be followed	
Tunnels and Shafts					OSHA Procedures & VA Confined Space Policy must be followed	
Identify Hazards	Evaluator	Is Hazard Likely? H-M-L	Severity H-M-L	Mitigation Needed? Y/N	Mitigation Strategies	Mitigation Strategies Implemented?
Process Safety Management - Piping Systems					Coordination with VA for affects on existing systems	
Cranes and Hoists					Rigging Plan to be approved by VA. Preventative maintenance logs required on site.	
Steel Erection					OSHA procedure to be followed	
Fall Protection					OSHA procedure to be followed	
Scaffolds					OSHA procedure to be followed	
Ladders					OSHA procedure to be followed	
Trenching and Excavation					OSHA procedure to be followed	
Motor Vehicles, Earthmoving, and Mechanized					Preventative maintenance logs required on site	
Concrete and Masonry					OSHA procedure to be followed	
Lead, Asbestos, and Silica					Coordination with VA required to identify all accessible suspect ACM building materials in affected facility where demolition will occur	
Utility Interruptions					Must receive approval from VA	
Dust					respiratory protection required when air debris present. Dust partitions must be utilized as needed	
Moisture/Water Leaks					Notification to VA required for all moisture/Water leaks	
Vapors/Fumes					Anything that may introduce vapor fumes to interior of Medical Center must be coordinated with VA prior to commencement	
Noise					Any work causing noise to Interior Of Medical Center must be coordinated with VA	
Identify Hazards	Evaluator	Is Hazard Likely? H-M-L	Severity H-M-L	Mitigation Needed? Y/N	Mitigation Strategies	Mitigation Strategies Implemented?
Vibration					Any work causing vibration to Interior Of Medical Center must be coordinated with VA	
Open Outside Walls					All site security deficiencies that may be introduced must be coordinated with VA	
Impact to Levels Above and Below					Coordinate with VA prior to impact to facility	
Proximity of Air Intakes					Cover and seal Intakes	
Pest Control within Construction Area					Pest control precautions must be utilized for any openings introduced to existing facility	
Approval Signatures:						
Project Manager:						Date:
Contractor:						Date:
Safety Manager:						Date:
Svc./Section/Program Director:						Date:

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

Scale: 1"=20'-0"

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title RISK ASSESSMENT		Project Title SLC E85 FUELING STATION		Project Number 660- 338		Office of Construction and Facilities Management	
				Approved Project Director		Location VAMC SALT LAKE CITY UT		Building Number 38			
				- VAPAHCS PLANNING AND ENGINEERING		Date 10 OCT 13		Checked HALL			
						Drawn MARINE		Drawing Number CG103			
Revisions:								Dwg 3 of 12			



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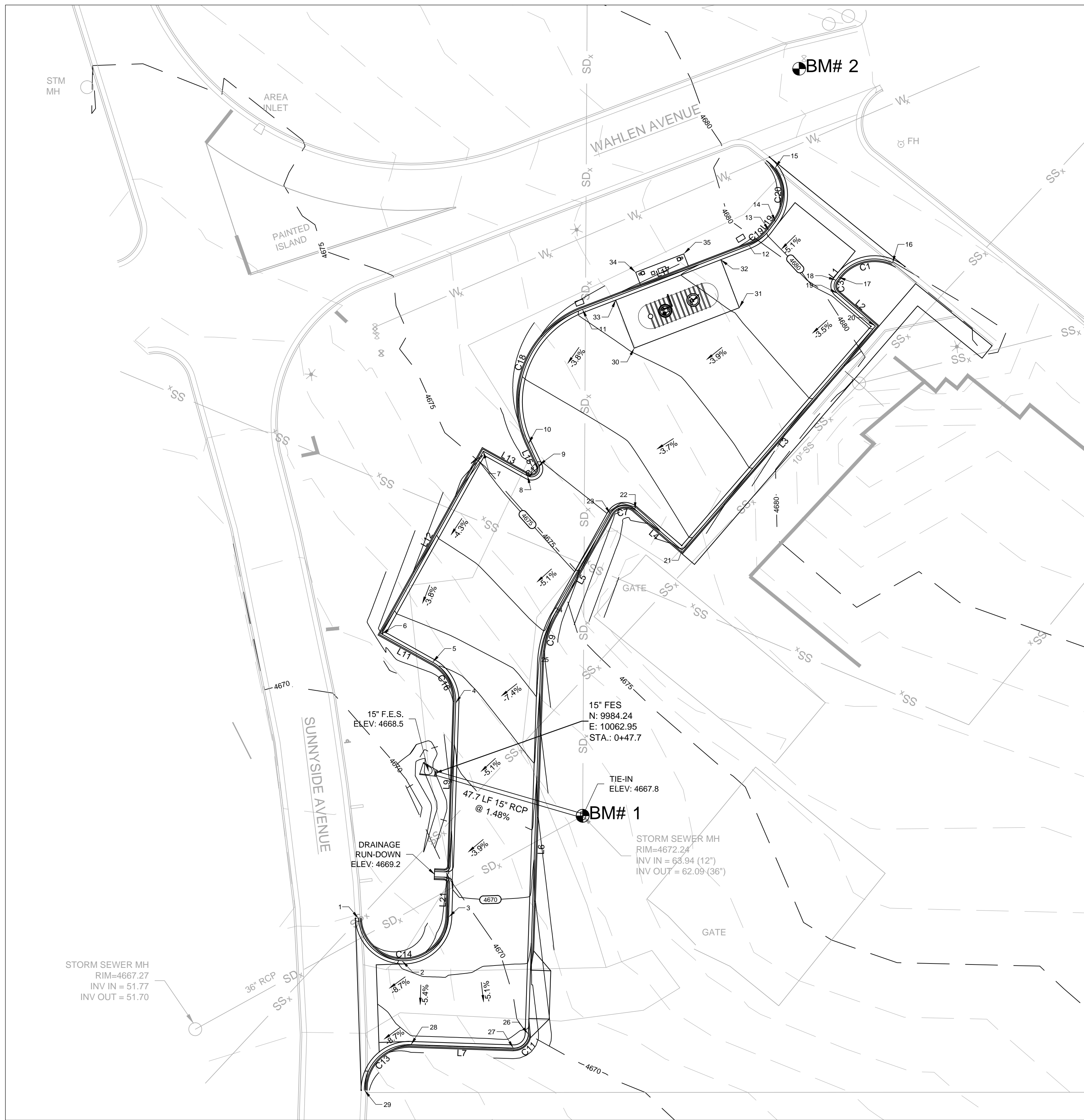
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1 GRADING PLAN  
CP101 SCALE: 1" = 20'

FLOWLINE TABLE

LINE #	LENGTH (ft.)	DIRECTION
L1	1.22	S36° 53' 50.44"W
L2	15.59	S49° 11' 20.36"E
L3	92.00	S40° 48' 39.64"W
L4	19.30	N49° 11' 20.36"W
L5	35.79	S29° 05' 28.85"W
L6	115.06	S1° 55' 10.13"W
L7	31.84	N88° 04' 49.87"W
L9	50.68	N1° 55' 10.13"E
L11	18.11	N60° 54' 31.15"W
L12	65.00	N29° 05' 28.85"E
L13	15.75	S60° 54' 31.15"E
L15	7.49	N25° 09' 44.12"W
L17	55.46	N68° 58' 02.40"E
L19	3.34	N36° 53' 50.44"E

FLOWLINE CURVE TABLE

CURVE #	LENGTH (ft.)	RADIUS (ft.)	DELTA	CHORD DIRECTION	CHORD LENGTH (ft.)
C1	18.74	14.00	76.69	S75° 14' 37"W	17.37
C3	4.51	3.00	86.09	S6° 08' 45"E	4.10
C7	8.88	5.00	101.72	S79° 57' 04"W	7.76
C9	16.12	34.00	27.17	S15° 30' 19"W	15.97
C11	7.07	4.50	90.00	S46° 55' 10"W	6.36
C13	22.60	14.00	92.51	S45° 39' 48"W	20.23
C14	42.65	14.00	174.55	N89° 11' 47"E	27.97
C16	15.35	14.00	62.83	N29° 29' 41"W	14.59
C17	6.29	2.50	144.25	N46° 57' 52"E	4.76
C18	50.39	30.67	94.13	N21° 54' 09"E	44.91
C19	7.84	14.00	32.07	N52° 55' 56"E	7.73
C20	18.06	14.00	73.91	N0° 03' 22"W	16.83

POINT TABLE

Point #	Elevation	Northing	Easting	Description
1	4667.95	9939.06	10039.11	FL
2	4669.05	9925.93	10052.62	FL
3	4669.76	9939.46	10067.08	FL
4	4671.48	10005.96	10069.30	FL
5	4672.09	10018.66	10062.12	FL
6	4672.99	10027.47	10046.29	FL
7	0.00	10084.27	10077.89	FL
8	4675.63	10076.61	10091.66	FL
9	4675.95	10079.86	10095.13	FL
10	4676.23	10086.64	10091.95	FL
11	4678.05	10128.31	10108.70	FL
12	4679.64	10148.21	10160.46	FL
13	4680.06	10152.87	10166.64	FL
14	4680.23	10155.55	10168.64	FL
15	4680.67	10172.38	10168.63	FL
16	4680.06	10142.81	10205.07	FL
17	4680.31	10138.38	10188.27	FL
18	4680.26	10137.41	10187.53	FL
19	4680.01	10133.33	10187.97	FL
20	4680.46	10123.15	10199.77	FL

POINT TABLE

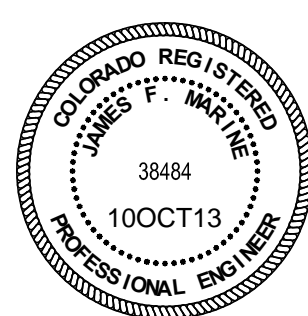
Point #	Elevation	Northing	Easting	Description
21	4677.41	10053.51	10139.64	FL
22	4676.49	10066.13	10125.04	FL
23	4676.00	10064.77	10117.40	FL
24	4674.27	10033.49	10100.00	FL
25	4673.47	10018.10	10095.73	FL
26	4667.91	9903.10	10091.87	FL
27	4667.89	9986.76	10087.22	FL
28	4667.89	9999.82	10055.40	FL
29	4666.67	9985.69	10040.93	FL
30	4676.06	10116.28	10124.78	EOC
31	4679.08	10128.84	10157.45	EOC
32	4679.38	10143.77	10151.70	EOC
33	4678.38	10131.21	10119.94	EOC
34	0.00	10139.84	10125.24	EOC
35	0.00	10145.99	10140.18	EOC

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A Veteran Owned Small Business

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Drawing Title  
GRADING PLAN  
AND SITE PLAN

Approved Project Director

VAPAHCs PLANNING AND ENGINEERING

Project Title  
SLC E85 FUELING STATION

Location  
VAMC SALT LAKE CITY UT

Date  
10 OCT 13

Checked  
HALL

Drawn  
MARINE

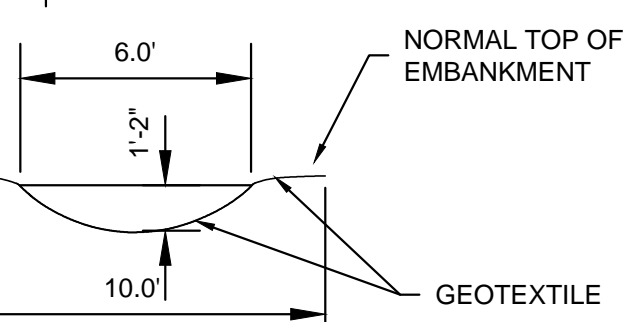
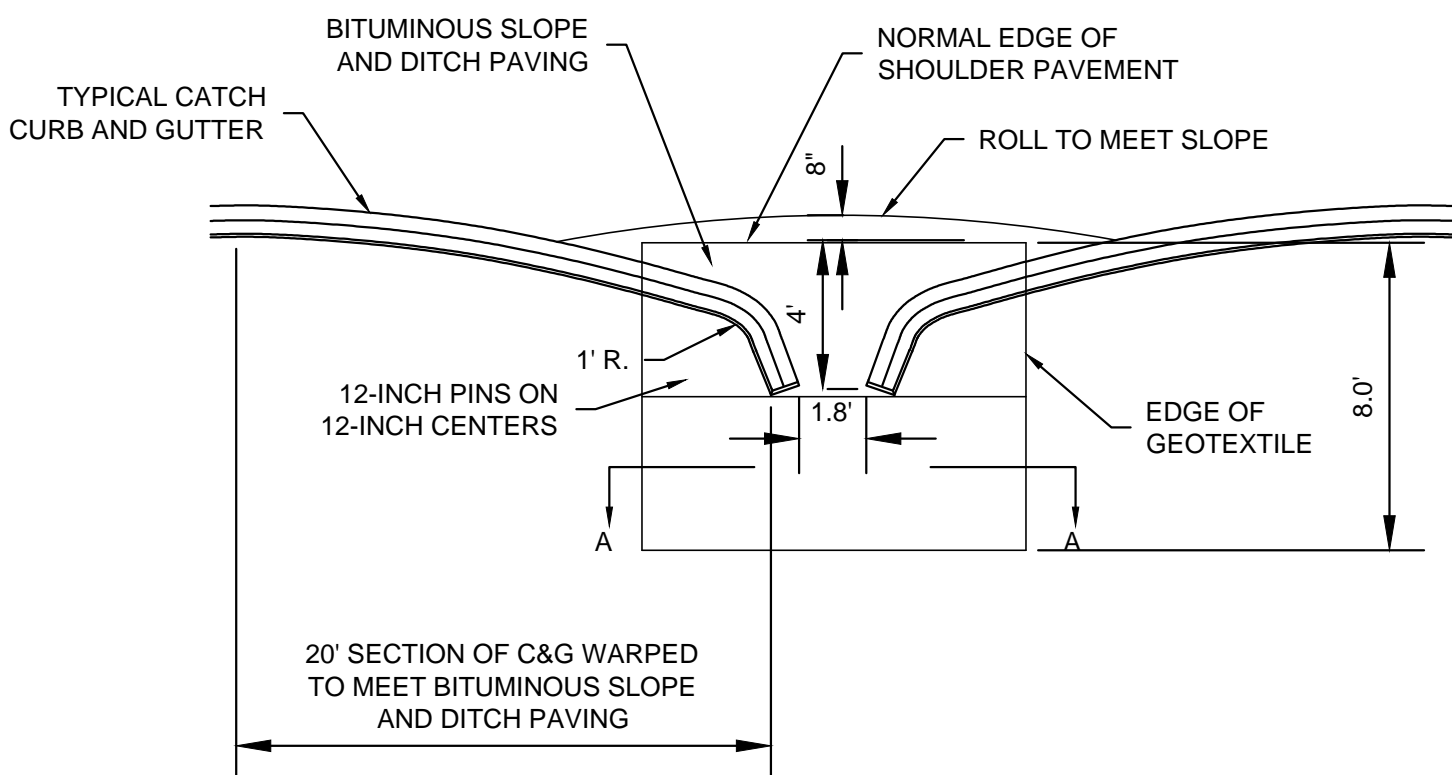
Project Number  
660- 338

Building Number  
38

Drawing Number  
CP101

Dwg. 4 of 12

Office of  
Construction  
and Facilities  
Management

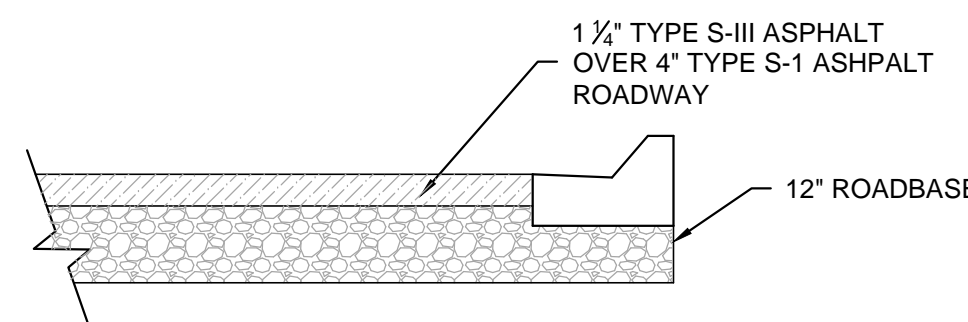


NOTES

1. FLARE CURB AND GUTTER ON EACH SIDE TO ALLOW FOR FLOW FROM BOTH DIRECTIONS.

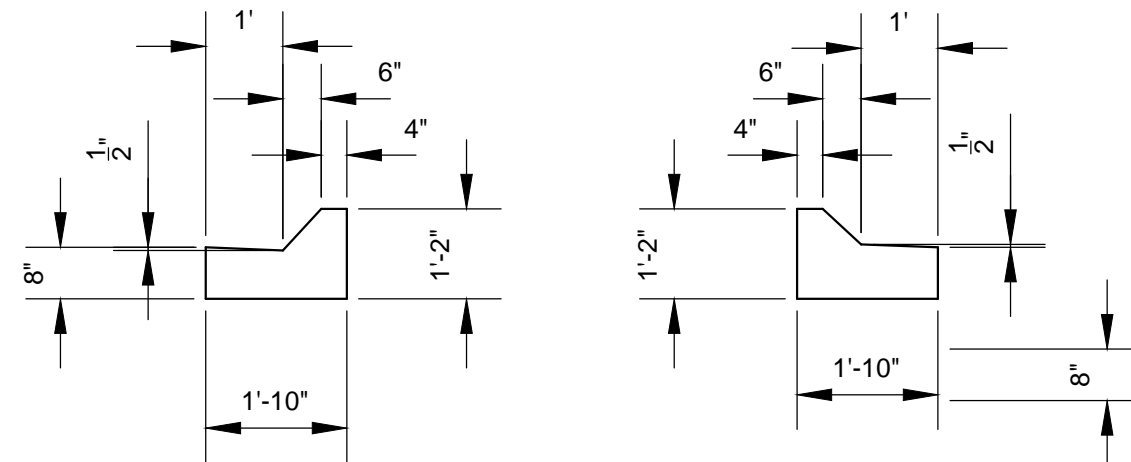
2 DRAINAGE RUN-DOWN

CP101 SCALE: 1" = 5'



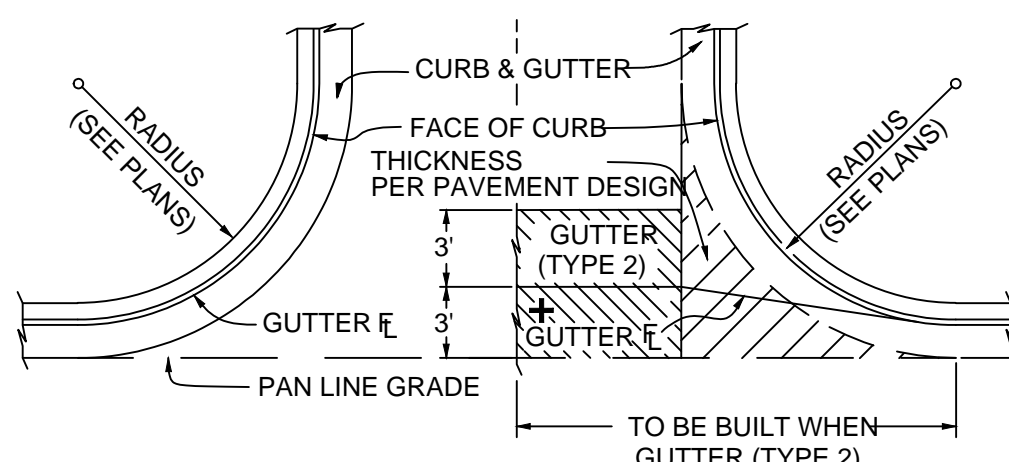
3 TYPICAL DRIVE SECTION

CP101 SCALE: N.T.S.



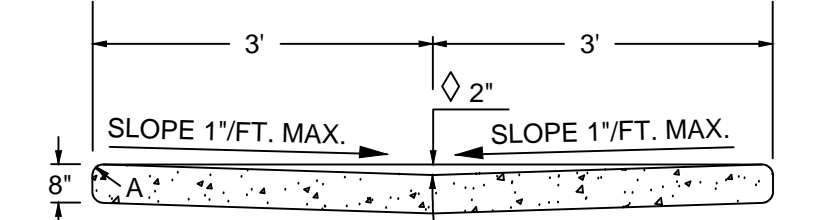
4 TYPICAL CURB AND GUTTER

CP101 SCALE: N.T.S.



- IS NOT REQUIRED  
THIS AREA SHALL BE POURED MONOLITHICALLY WITH CURB AND GUTTER  
+ FLOW LINE LOCATION WILL BE ESTABLISHED BY W/2 SHOWN ON PLANS.  
GUTTER CROSS SLOPES SHALL BE 1/4 IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB.

CONSTRUCTION OF CONCRETE  
GUTTERS AT INTERSECTION



2" DEPTH WHEN USED AS A CROSSSPAN IN AN INTERSECTION

GUTTER TYPE 2

5 TYPICAL CURB CROSSSPAN

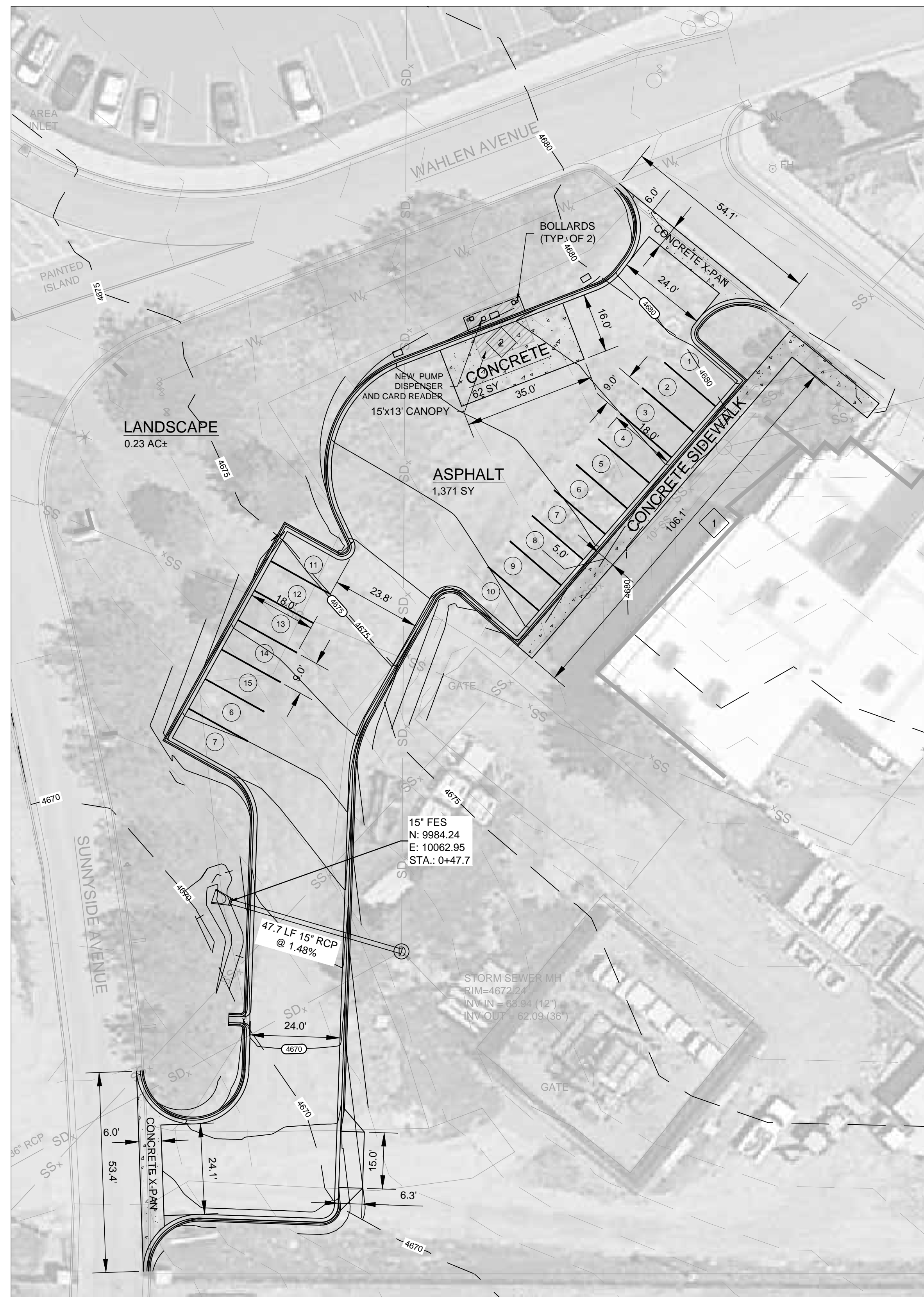
CP101 SCALE: N.T.S.

NOTES:

1. PTZ SECURITY CAMERA, AXIS MODEL P5534-E
2. PTZ SECURITY CAMERA, AXIS MODEL P13 (FIXED BELOW FUEL CANOPY)
3. TERMINATION OF SECURITY FEED TO BE DETERMINED BY VAMC SECURITY.
4. RCP SHALL BE CLASS III.
4. ENSURE CARD READER OPERATES WITH EXISTING GSA AND WRIGHT EXPRESS SMART FUEL CARDS AND HAS SIMILAR KEY IN FUNCTIONS AS EXISTING SYSTEM. PETROVEND K800 FUEL CONTROL SYSTEM (OR EQUIVALENT).

PROJECT BENCHMARKS:

1. BENCHMARK #1 (BM#1) IS THE TOP OF EXISTING STORM MANHOLE:  
N= 9970.93  
E= 10108.77  
ELEVATION= 4672.24
2. BENCHMARK #2 (BM#2) IS THE TOP OF EXISTING WATER MANHOLE:  
N= 10203.11  
E= 10176.08  
ELEVATION= 4681.46



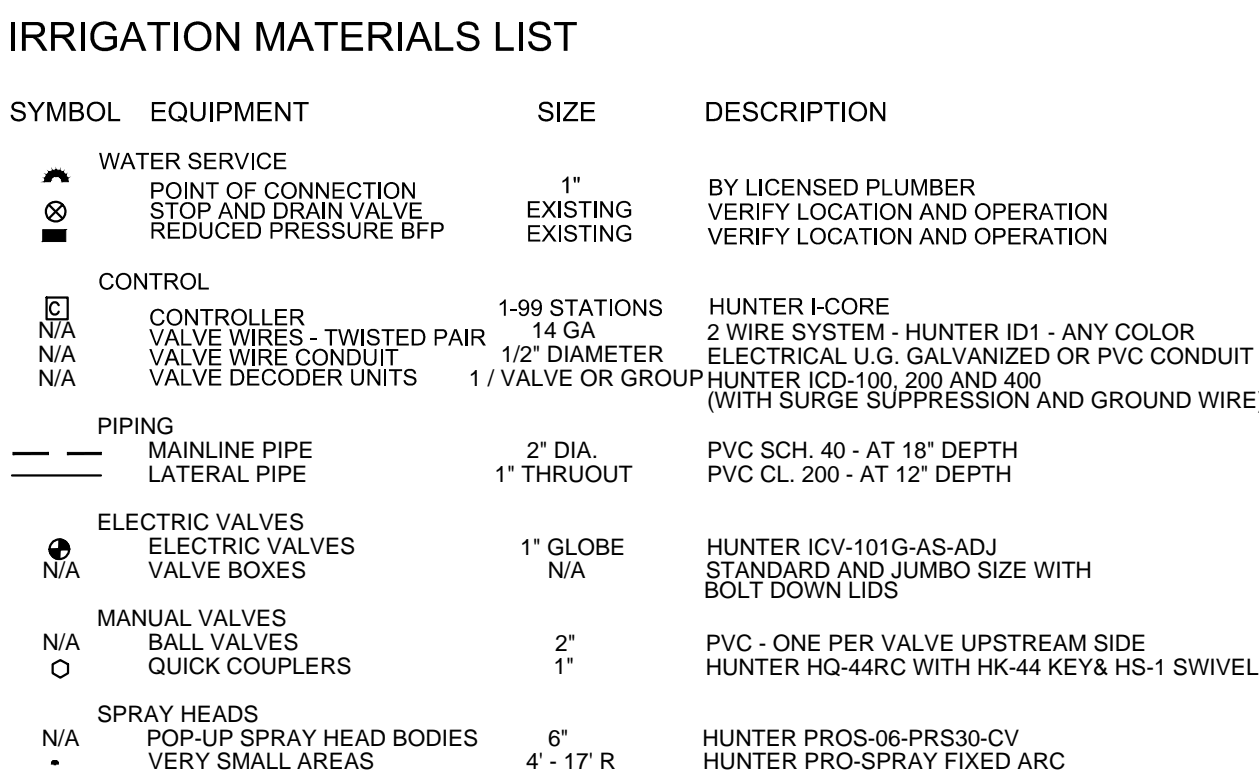
6 SITE PLAN  
CP101 SCALE: 1" = 20'

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

Scale: 1"=20'-0"



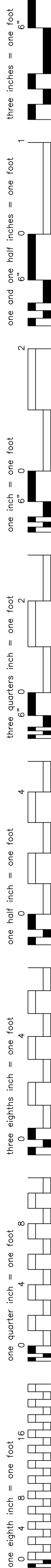
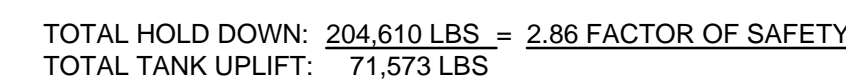
- |   |
|---|
| A |
| B |
| C |
| D |
| E |
| F |



Scale: 1"=20'-0"

VA FORM 08-6231



[illegible]

**HOLD DOWN CALCULATION**

① TANK SLAB:  $87' \times 26' \times 10' = 174.2 \text{ CU FT}$   
 $174.2 \text{ CU FT} \times 150 \text{ LBS/CF} = \underline{26,130 \text{ LBS}}$

② BACKFILL ABOVE TANK:  
 $4' \times 8' \times 26' = 832 \text{ CU FT} = 77 \text{ CU FT (SUMP)} = 755 \text{ CU FT}$   
 $755 \text{ CU FT} \times 110 \text{ LBS/CF} = \underline{83,050 \text{ LBS}}$

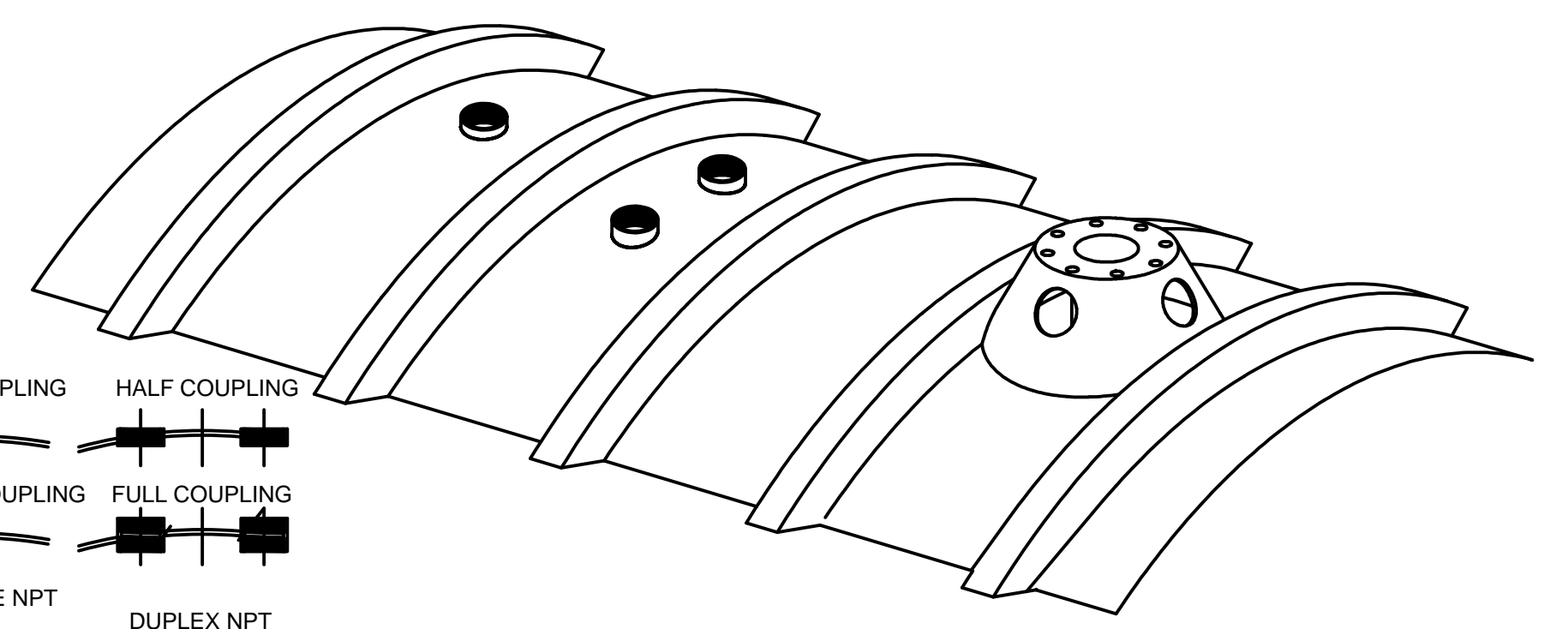
③ CURVED BACKFILL ABOVE TANK:  
 $3.14 \times 4' \times 26' = 1,306 \text{ CU FT}$   
 $8' \times 8' \times 26' = 1,664 \text{ CU FT}$   
 $1,664 \text{ CU FT} - 1,306 \text{ CU FT} = \underline{\frac{358 \text{ CU FT}}{2}} = 179 \text{ CU FT}$

④ GRAVEL ABOVE DEADMAN:  
 $12' \times 13' \times 24' \times 2 = 624 \text{ CU FT}$   
 $624 \text{ CU FT} \times 110 \text{ LBS/CF} = \underline{68,640 \text{ LBS}}$

⑤ CONCRETE DEADMAN:  
 $1' \times 1' \times 24' = 24 \text{ CU FT}$   
 $24 \text{ CU FT} \times 150 \text{ LBS/CF} \times 2 = \underline{\frac{3,600 \text{ LBS}}{2}} = 1,800 \text{ LBS}$

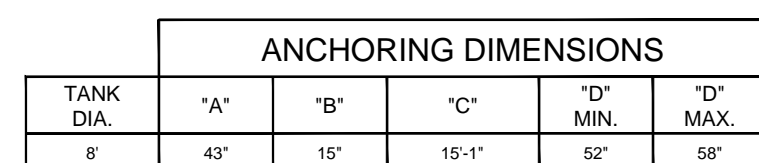
⑥ DRY WEIGHT OF TANK:  
3,500 LBS

TOTAL HOLD DOWN: 204,610 LBS

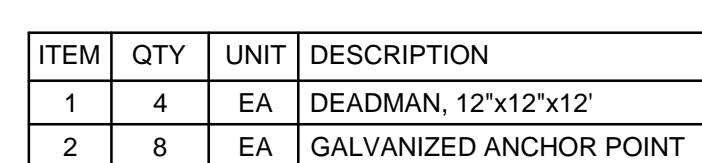


**FITTING NOTES:**  
- ALL NPT FITTINGS MUST BE POSITIONED ON THE TOP  
CENTERLINE OF THE TANK. - AVAILABLE IN 2", 4" AND 6" SIZES.

7 COUPLING DETAILS  
CU501 SCALE: N.T.S.



PRE-FAB DEADMAN			
TANK SIZE	QTY	"L"	APPROX. WEIGHT EACH
8'-8,000	4	12'	1,800 LBS



5 PRE-FABRICATED DEADMAN  
CU501 SCALE: N.T.S.

6  
CU501

HOOK BY D-LUG  
HOLD-DOWN STRAPS  
SCALE:N.T.S.

## FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title	Project Title	Project Number	Office of Construction and Facilities Management
		<div></div> <div>Aegis Engineering, Inc. A Veteran Owned Small Business</div> <div>10046 South Parker Road Ste. 100 Parker, Colorado 80134 (720)359-0749</div>		UST DETAILS AND HOLD DOWN	SLC E85 FUELING STATION	660- 338	
				Approved: Project Director	Location	Drawing Number	
				- - VAPAHCS PLANNING AND ENGINEERING	- SALT LAKE CITY UT	CU501	
					Date	Checked	Drawn
					10 OCT 13	MARINE	KIRKMAN
							Dwg. 5 of 12

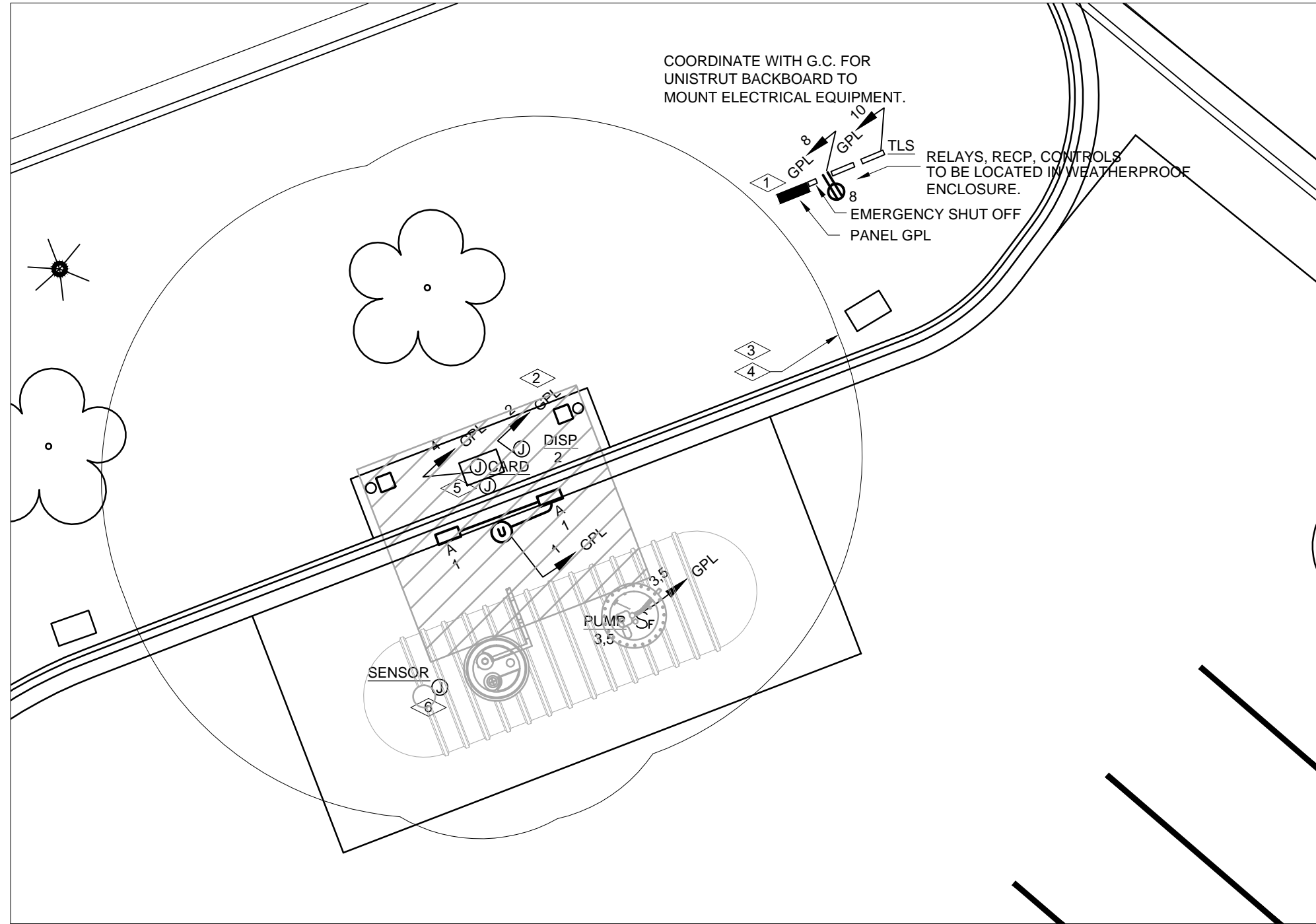




## FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION



three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



E100  
ELECTRICAL PLAN  
SCALE: 1/8"=1'-0"

SHEET NOTES

- SEALS REQUIRED AT ALL CONDUITS LEAVING PANEL(NEC 514).
- SEALS REQUIRED AT ALL GAS PIPE DISPENSORS(NEC 514).
- SEALS REQUIRED AT CONDUITS LEAVING CLASS I HAZARDOUS LOCATION(NEC 514). E.C. TO USE EQUIPMENT AND WIRING RATED FOR CLASS I LOCATIONS.
- CLASS I HAZARDOUS LOCATION. E.C. TO USE EQUIPMENT AND WIRING METHODS RATED FOR CLASS I LOCATIONS. THREADED RIGID METAL CONDUIT OR THREADED STEEL INTERMEDIATE METAL CONDUIT.
- LOCATION OF SECURITY EQUIPMENT. E.C. TO PROVIDE 34°C AND PULLSTRING BACK TO COMM. ROOM. VERIFY EXACT LOCATION OF EQUIPMENT WITH I.T.
- E.C. TO PROVIDE 34°C. AND PULLSTRING BACK TO TLS.

EQUIPMENT SCHEDULE

PLAN CODE	DESCRIPTION	VOLTS	PHASE	LOAD (WATTS)	WIRE SIZE	DISC. TYPE	DISC. SIZE	FUSE SIZE	FURN.
DISP	DISPENSER	120	1	1000	(2-#12 THWN CU #12G)1/2"C.	FSW			MANU
PUMP	FUEL PUMP	208	1	1580	(2-#12 THWN CU #12G)1/2"C.	FSW			MANU
CARD	CARD READER	120	1	360	(2-#12 THWN CU #12G)1/2"C.	FSW			MANU

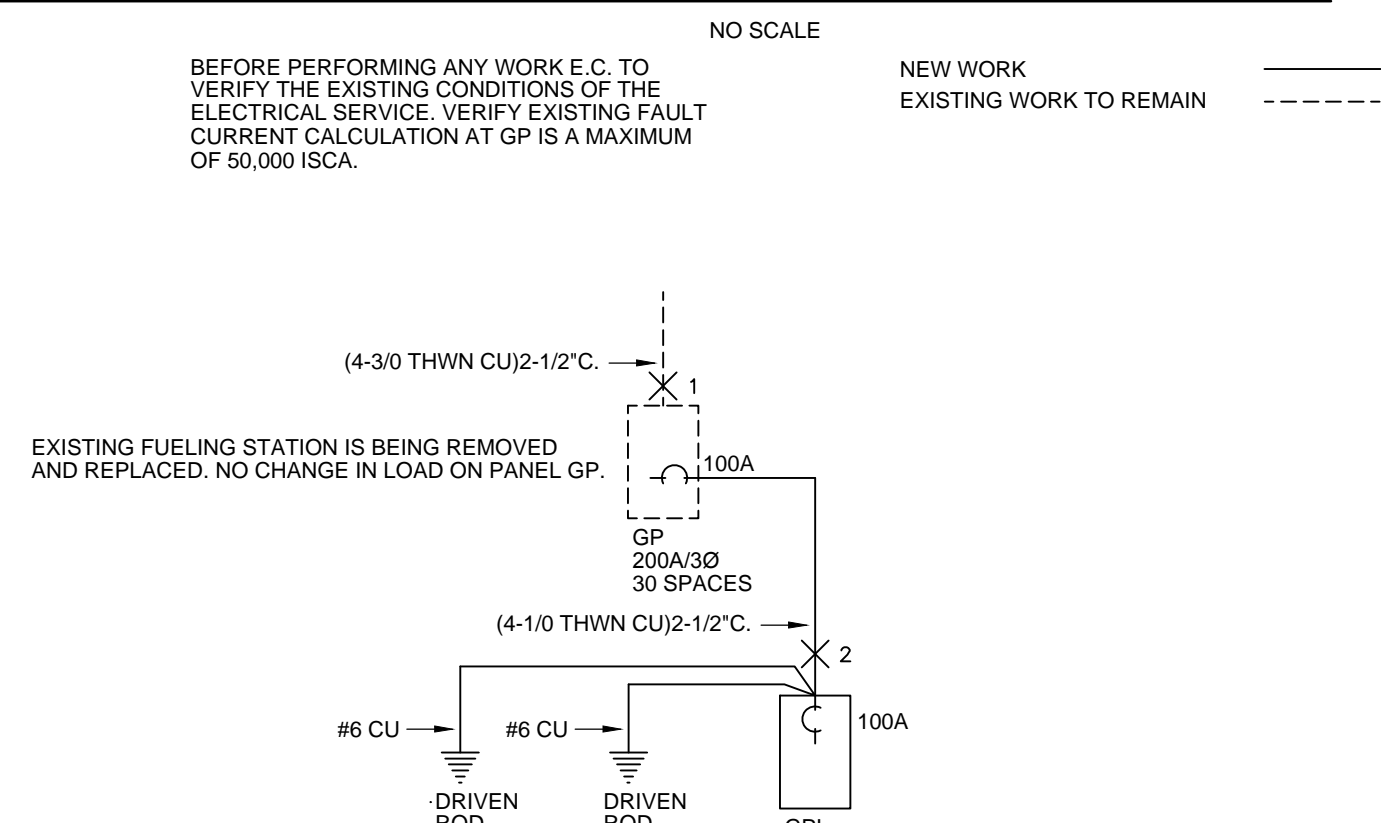
FSW = FUSED SAFETY SWITCH. CB = CIRCUIT BREAKER. RECP = RECEPTACLE. SW = SWITCH.OCCUPANCY SENSOR. E.C. TO VERIFY THE NAMEPLATE DATA ON THE ACTUAL EQUIPMENT PROVIDED BEFORE DOING ANY WORK.

LIGHTING FIXTURE SCHEDULE

PLAN CODE	DESCRIPTION	VOLTS	MANUFACTURE	CATALOG #	LAMP TYPE	TOTAL WATTS
A	CANOPY LIGHT	120VOLT	LITHONIA	DS45C-LED30C-100-30K-100WVOLT	LED	107

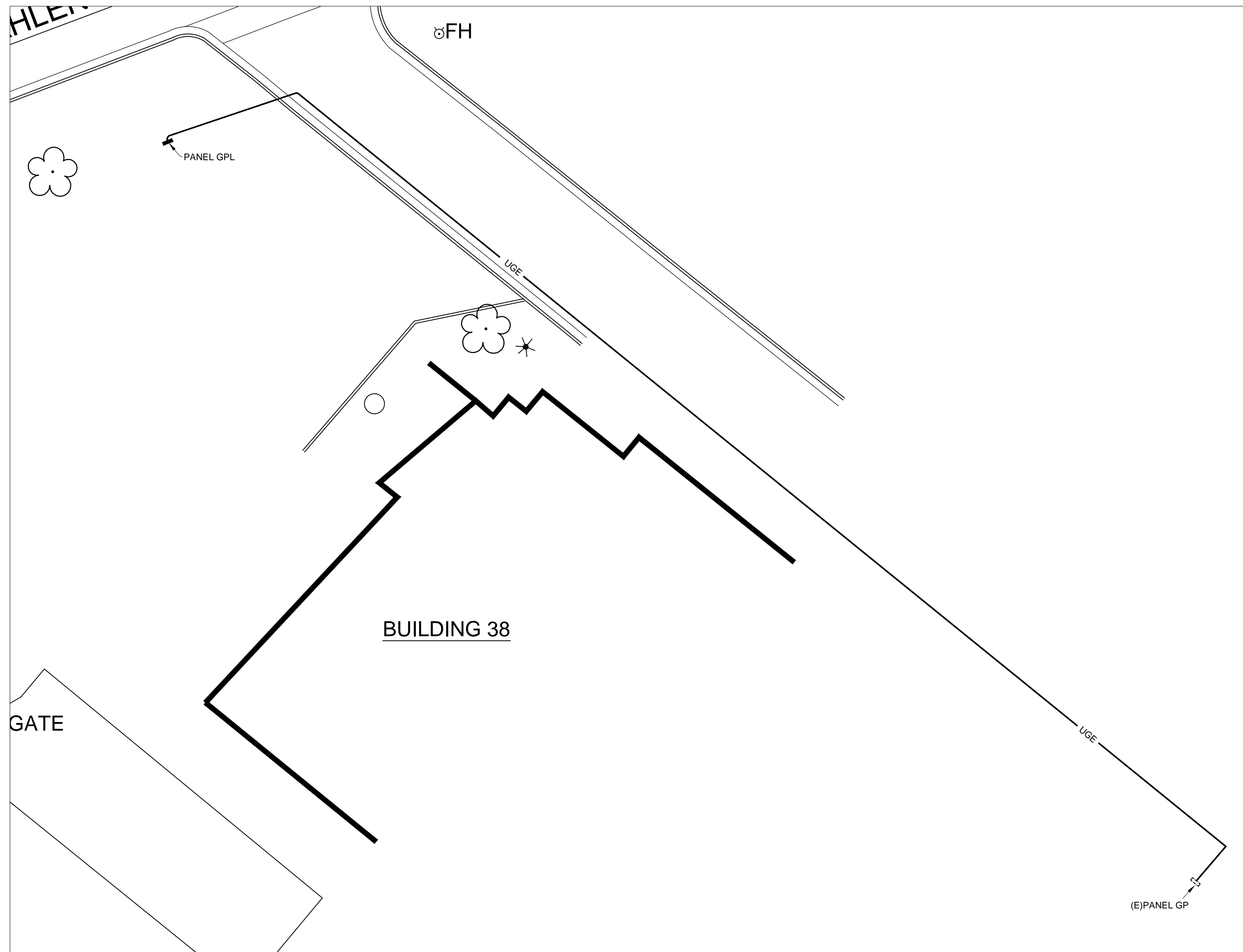
E.C. TO VERIFY FIXTURE TYPES, SWITCHING, AND LOCATIONS WITH ARCHITECT. FIXTURES F3, F3-EM, HB, HB-EM TO HAVE MULTIPLE BALLASTS FOR INBOARD/OUTBOARD SWITCHING.

PARTIAL ONE LINE DIAGRAM



FAULT CURRENT TABLE

FAULT	CURRENT SOURCE, CONDUCTOR IMPEDANCE	AVAILABLE SYM. FAULT CURRENT
1.	FAULT AT (E/GP (MAXIMUM)	50,000 ISCA
2.	300' 1/0 CU	3,470 ISCA



2  
E100  
SITE POWER DISTRIBUTION PLAN  
SCALE: 1/16"=1'-0"

ELECTRICAL DEVICE LEGEND

- WALL SWITCH
- DIMMER SWITCH
- WALL MOUNTED DUPLEX RECEPTACLE
- WALL MOUNTED DOUBLEDUPLEX RECEPTACLE
- CEILING MOUNTED RECEPTACLE
- FLOOR MOUNTED DUPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- PANEL
- HOMERUN, PANEL AND CIRCUIT DESIGNATION.
- NEW CONDUIT.
- EXISTING CONDUIT.
- UG- UNDERGROUND ELECTRICAL CONDUIT.
- SMALLER - NONSWITCHED PHASE CONDUCTOR LONGER - GROUNDED CONDUCTOR (NEUTRAL)
- FUSED SWITCH
- NONFUSED SWITCH
- COMBINATION FUSED SWITCH/MOTOR STARTER
- MOTOR STARTER
- MOTOR
- TIME CLOCK.
- PHOTOELECTRIC CELL
- JUNCTION BOX.
- DUAL TECHNOLOGY OCCUPANCY SENSOR
- DAY LIGHTING SENSOR

LIGHT FIXTURE LEGEND

- WALL MOUNTED FIXTURE
- SOFFIT MOUNTED
- LINEAR INDIRECT
- 2' x 2' LAYIN
- 2' x 2' LAYIN W/ EM. BALLAST.
- SURFACE WRAP
- TRACK
- FLOUR, HIGH BAY
- FLOUR, HIGH BAYW/ EM.
- STRIP LIGHT
- STRIP LIGHT W/ EM. BALLAST
- WALL MOUNTED ROADWAY LIGHT
- EMERGENCY EXIT SIGN
- EMERGENCY "FROG EYES"

CONTRACTOR COORDINATION SCHEDULE

ITEM FURNISHED	FURNISHED BY	MOUNTED BY	WIRED BY
LOCATING EXISTING EXTERIOR UTILITIES	G.C.	-	-
LOCATING EXISTING INTERIOR UTILITIES	P.C./E.C.	-	-
CONCRETE EQUIPMENT PADS	G.C.	G.C./S.C./M.C.	-
EXCAVATION, BACKFILL, AND CONCRETE OR ASPHALT PAVING FOR UTILITIES OR OTHER WIE EQUIPMENT.	G.C.	AH/G.C./C.C.	-
FLASHING OVER THE TOP OF PLATFORMS AND CURBS	G.C.	G.C./R.C.	-
ROOFING REPAIR AND/OR SEALING OF ROOFING SYSTEM	G.C.	G.C./R.C.	-
MOTOR STARTERS AND COMBINATION MOTOR STARTERS TO INCLUDE THERMAL OVERLOADS	M.C./P.C.	E.C.	E.C.
STARTERS IN MOTOR CONTROL CENTERS	M.C.	E.C.	E.C.
MULTISPEED SWITCHES.	M.C.	M.C.	E.C.
DISCONNECT SWITCHES.	E.C.	E.C.	E.C.
CONDUIT FOR ALL WIRING.	E.C.	E.C.	-
CONTROL TRANSFORMERS FOR HVAC EQUIPMENT	M.C.	M.C.	E.C.
HVAC CONTROL WIRING 48 VOLTS AND LESS.	T.C./M.C.	T.C./M.C.	T.C./M.C.
WIRING GREATER THAN 120 VOLTS.	E.C.	E.C.	E.C.
INTERLOCK	M.C./E.C.	E.C.	E.C.
NON-LOAD VOLTAGE CONTROL SYSTEMS	M.C.	M.C.	M.C.
DUCT AND SMOKE DETECTORS INTERFACED WITH BUILDING FIRE ALARM SYSTEM.	F.A./C.E.C.	M.C.	F.A./C.E.C.
FIRE PROTECTION CONTROLS INCLUDING FLOW SWITCHES	M.C.	M.C.	MC/E.C.

ELECTRICAL ONE LINE LEGEND

- SINGLE PHASE WEATHERHEAD
- THREE PHASE WEATHERHEAD
- ELECTRICAL METER
- C.T. AND ELECTRICAL METER
- GROUND
- FAULT
- ELECTRICAL PANEL
- ELECTRICAL PANEL W/ MAIN CIRCUIT BREAKER
- CIRCUIT BREAKER
- FUSED SWITCH
- NONFUSED SWITCH

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

CONSULTANTS:

ARCHITECT/ENGINEERS:



Aegis Engineering, Inc.  
A Veteran Owned Small Business  
10940 South Parker Road  
Ste. 199  
Parker, Colorado  
80134  
(720)259-0749

Drawing Title

ELECTRICAL PLAN

Approved Project Director

VAPAHCS PLANNING AND ENGINEERING

Project Title

SLC E85 FUELING STATION

Location

VAMC SALT LAKE CITY UT

Date

10 OCT 13

Checked

HALL

Drawn

MARINE

Project Number

660- 338

Building Number

38

Drawing Number

E100

Dwg. 7 of 12

Office of  
Construction  
and Facilities  
Management





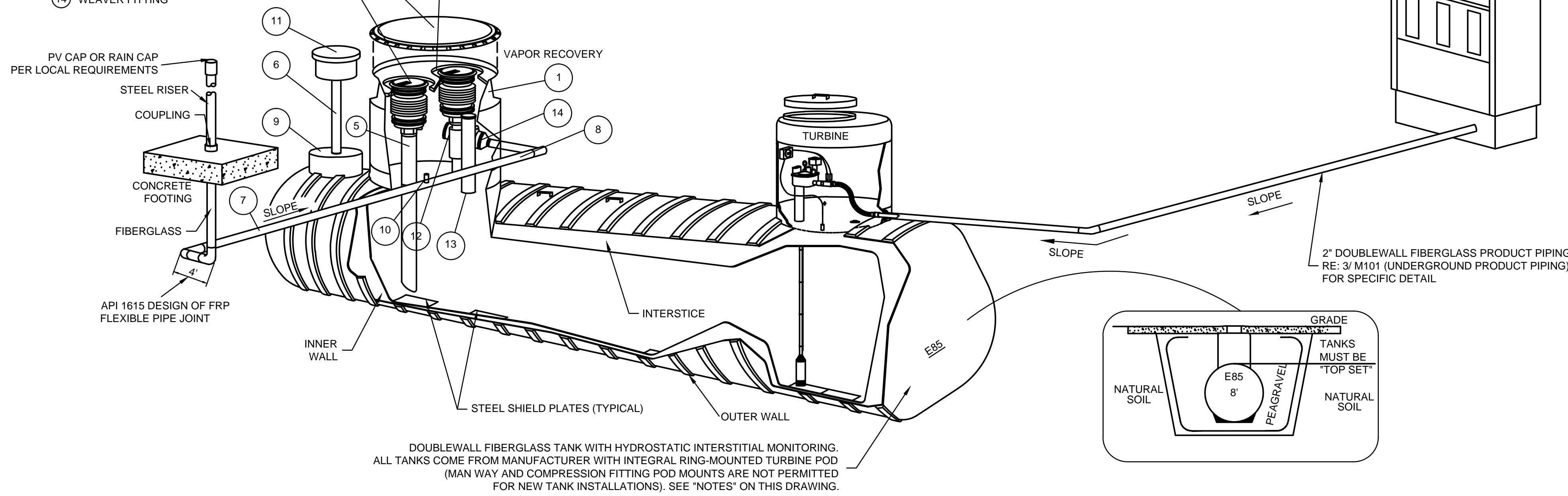


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one quarter inch = one foot  
one eighth inch = one foot  
one sixteenth inch = one foot

LEGEND

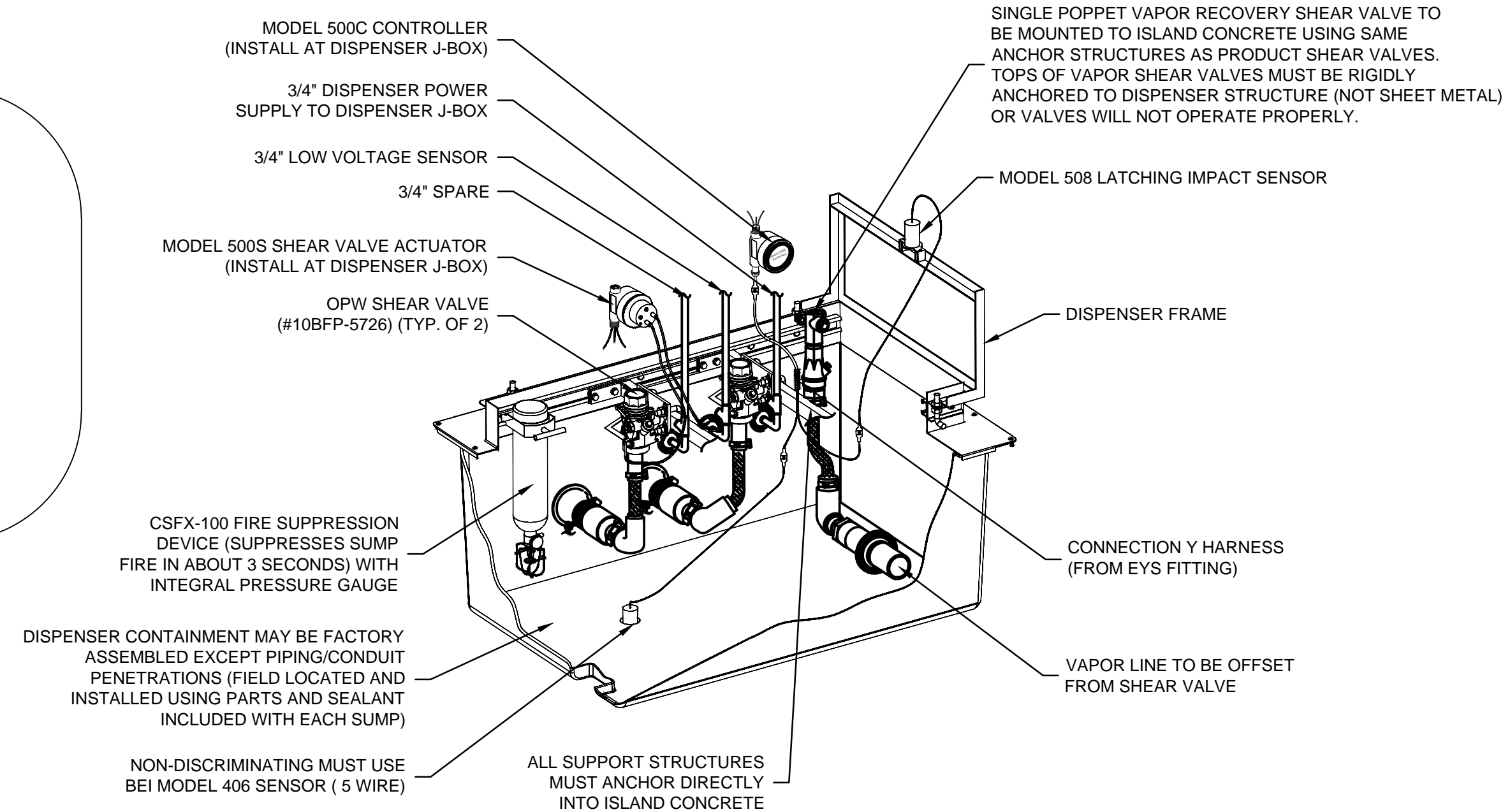
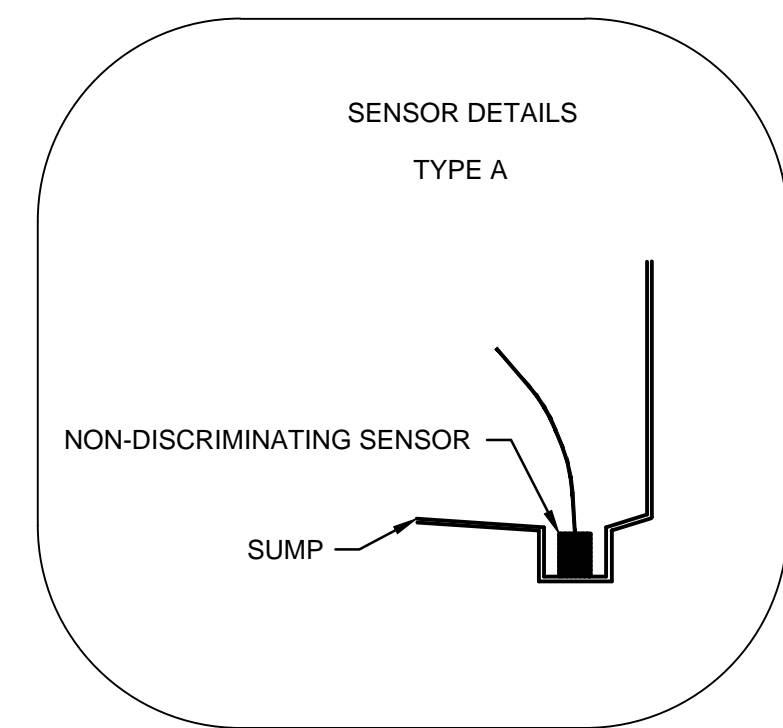
- 48" FIBRELITE ELITE FIBERGLASS SUMP MOUNTED ON FACTORY BONDED RING
- FL-36 36" FIBRELITE ACCESS LID/SEAL RING FACTORY MOUNTED ON SUMP LID
- FIBERGLASS WALKING SURFACE BY FIBRLITE
- PHIL-TITE MODEL 85000 SPILL COLLECTOR
- STEEL RISER - (RE: 3/ M-102)
- ABS OR PVC RISER
- 3" FIBERGLASS - UNDERGROUND; STEEL - FROM COUPLING ON UP
- 3" VENT LINES
- INTERSTITIAL RESERVOIR
- ELECTRONIC SENSOR
- UNIVERSAL VALVE 62 WEATHER-RESISTANT, LOCKABLE ACCESS BOX
- STREET CROSS OR STREET TEE AS APPLICABLE
- TANK GAUGE
- WEAVER FITTING

3" SINGLE-WALL VAPOR RECOVERY RETURN,  
3" VENT, & 3" VAPOR MANIFOLD. MINIMUM VERTICAL  
RISE OF MANIFOLD TO BE 24" ABOVE TANK TOPS.  
NOTE: WHERE SINGLE WALL PIPING IS CALLED OUT,  
AMERON LCX DOUBLE WALL MAY BE USED.



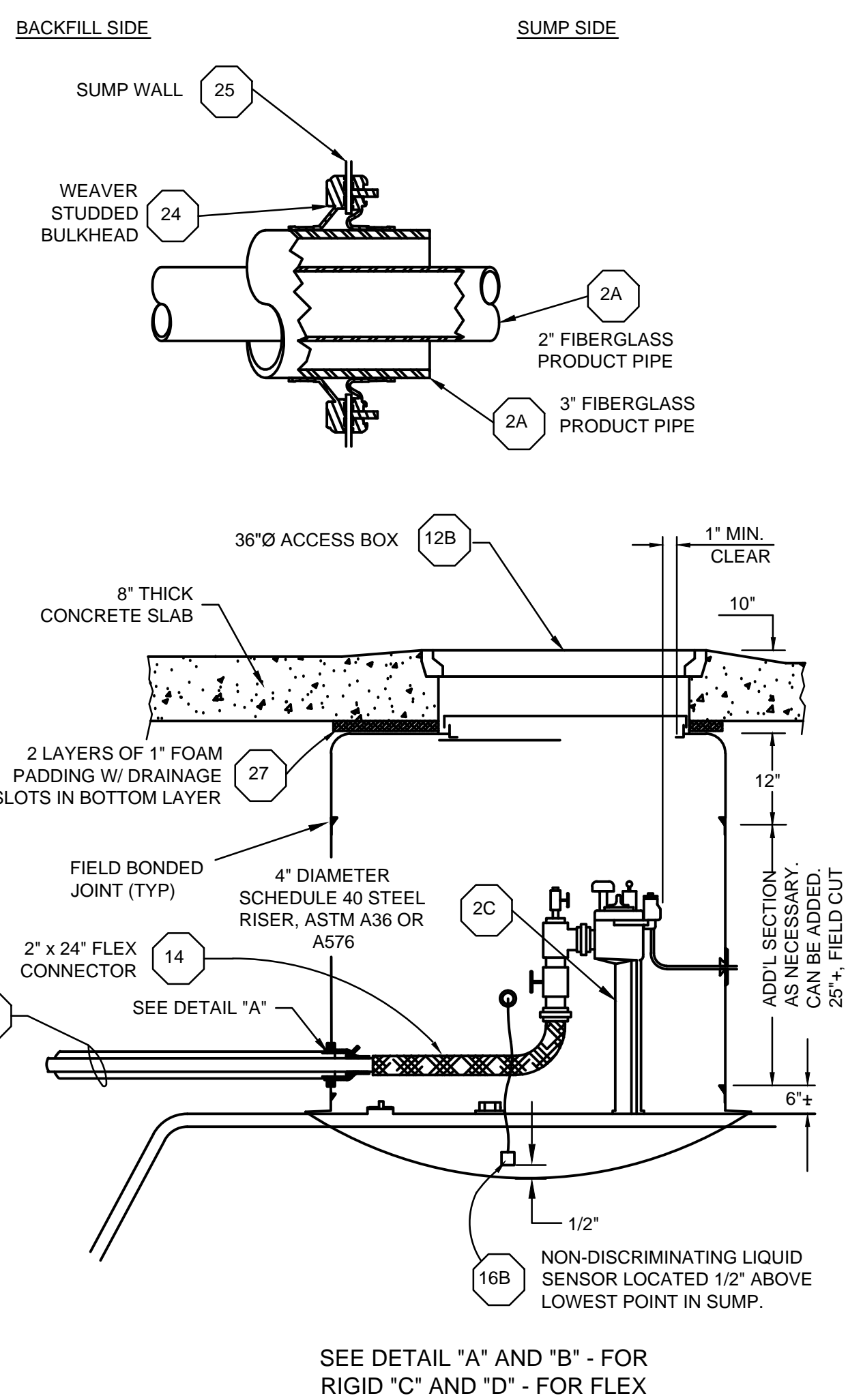
1 ISLAND AND TANK ARRANGEMENT  
SCALE: N.T.S.

DETAIL "A" DISPENSER CONTAINMENT  
PRODUCT TERMINATION

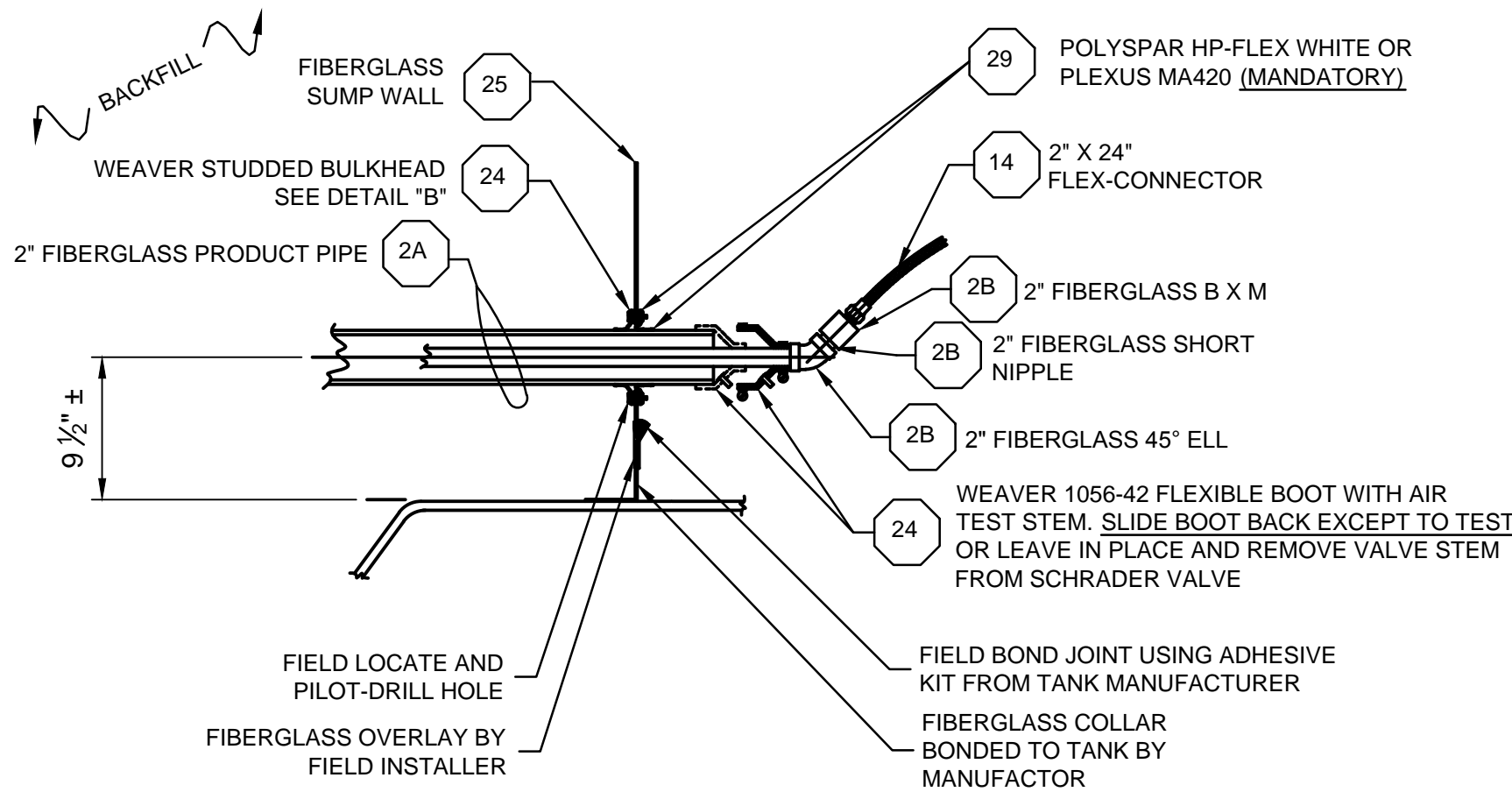


2 DISPENSER CONTAINMENT DETAILS  
SCALE: N.T.S.

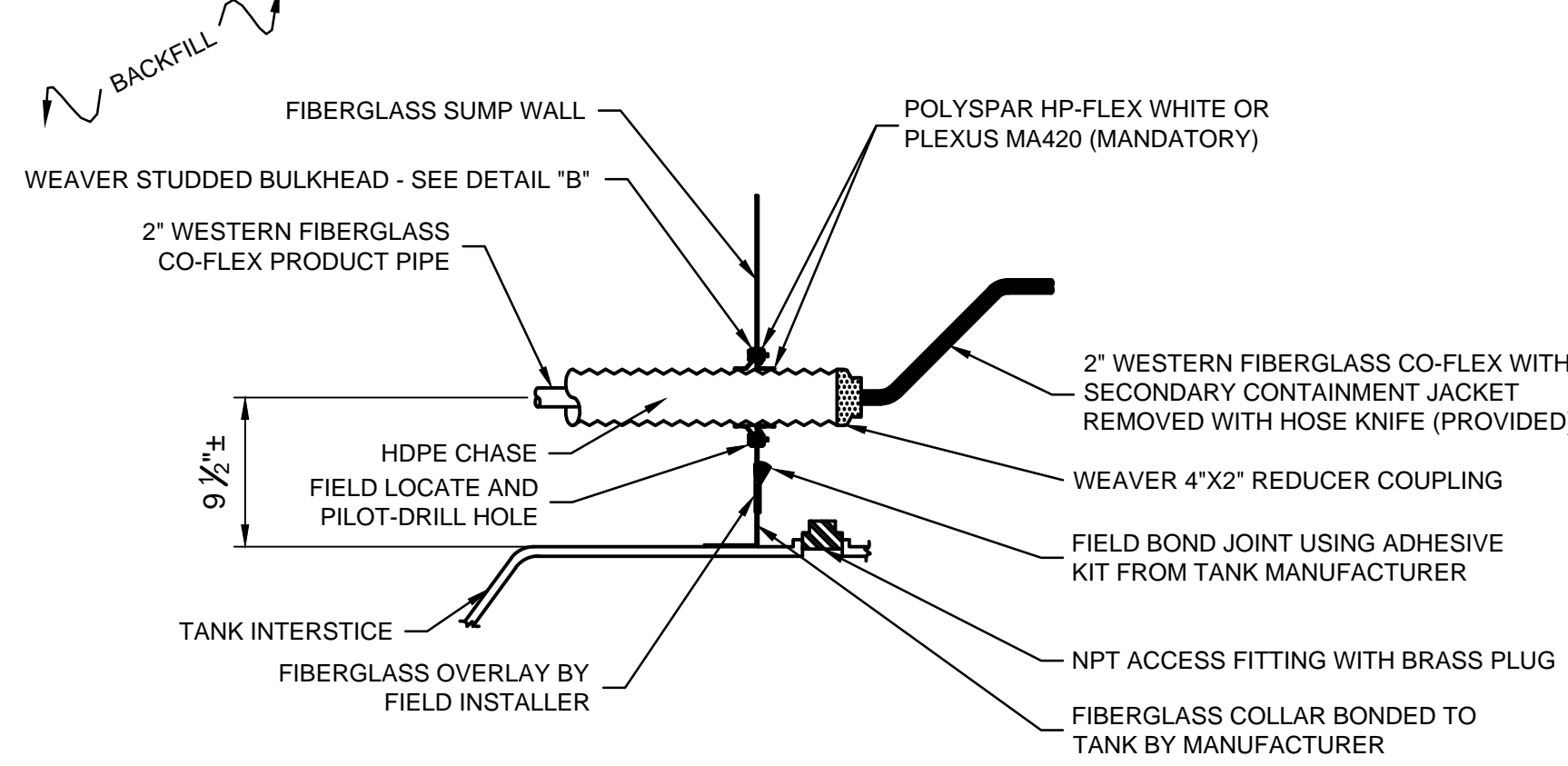
DETAIL "B" RIGID PIPING



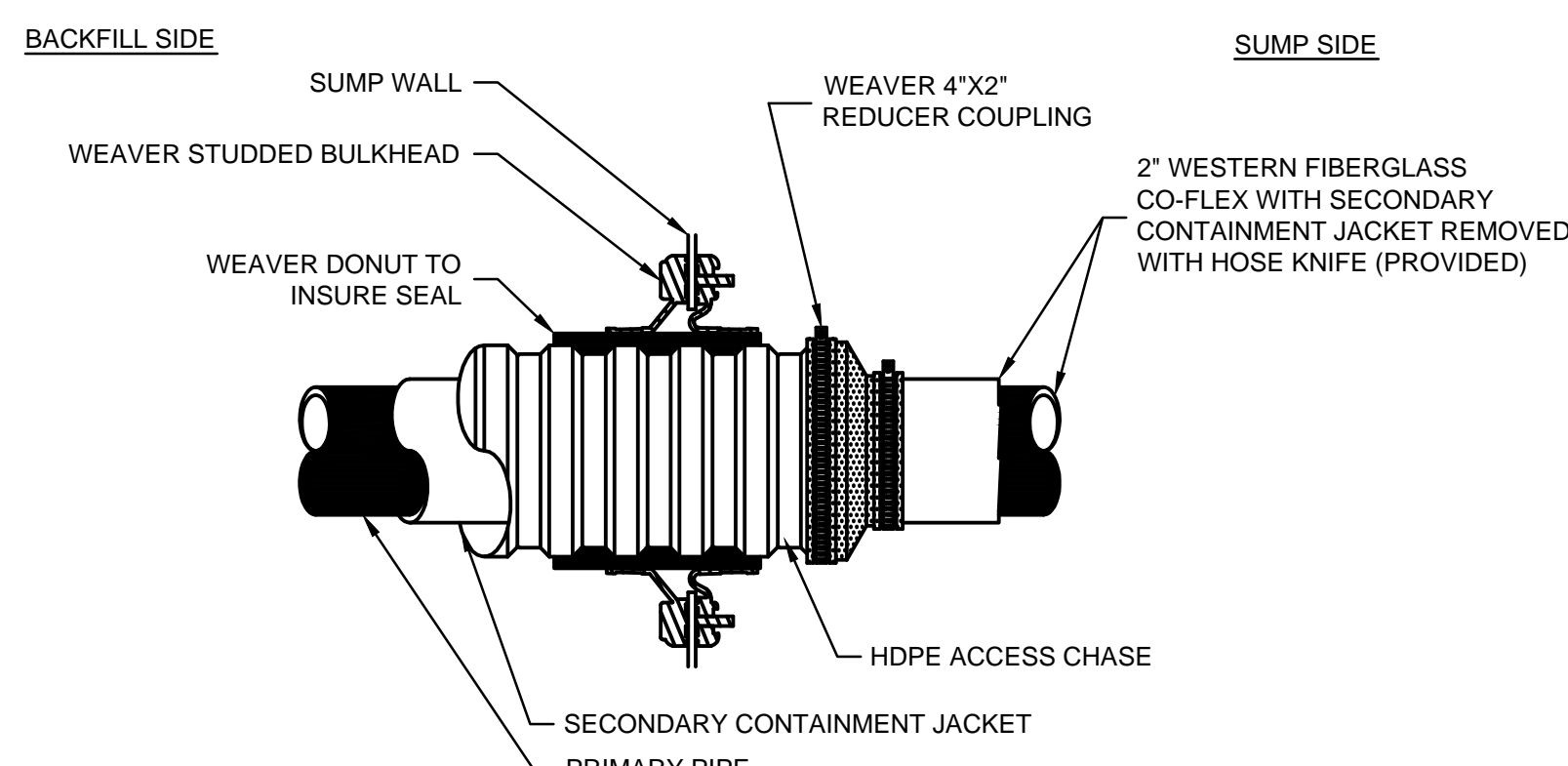
DETAIL "A" RIGID PIPING



DETAIL "C" FLEX PIPING

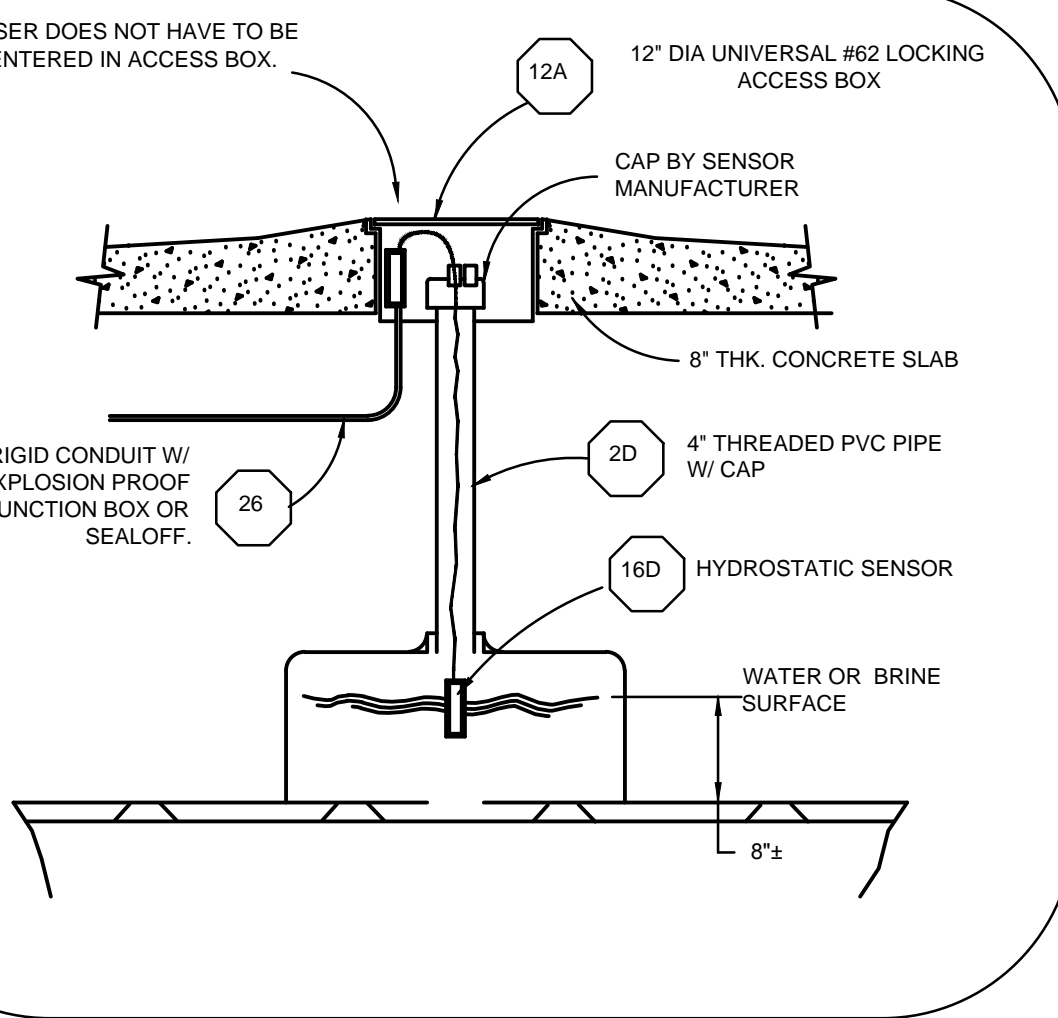


DETAIL "D" FLEX PIPING



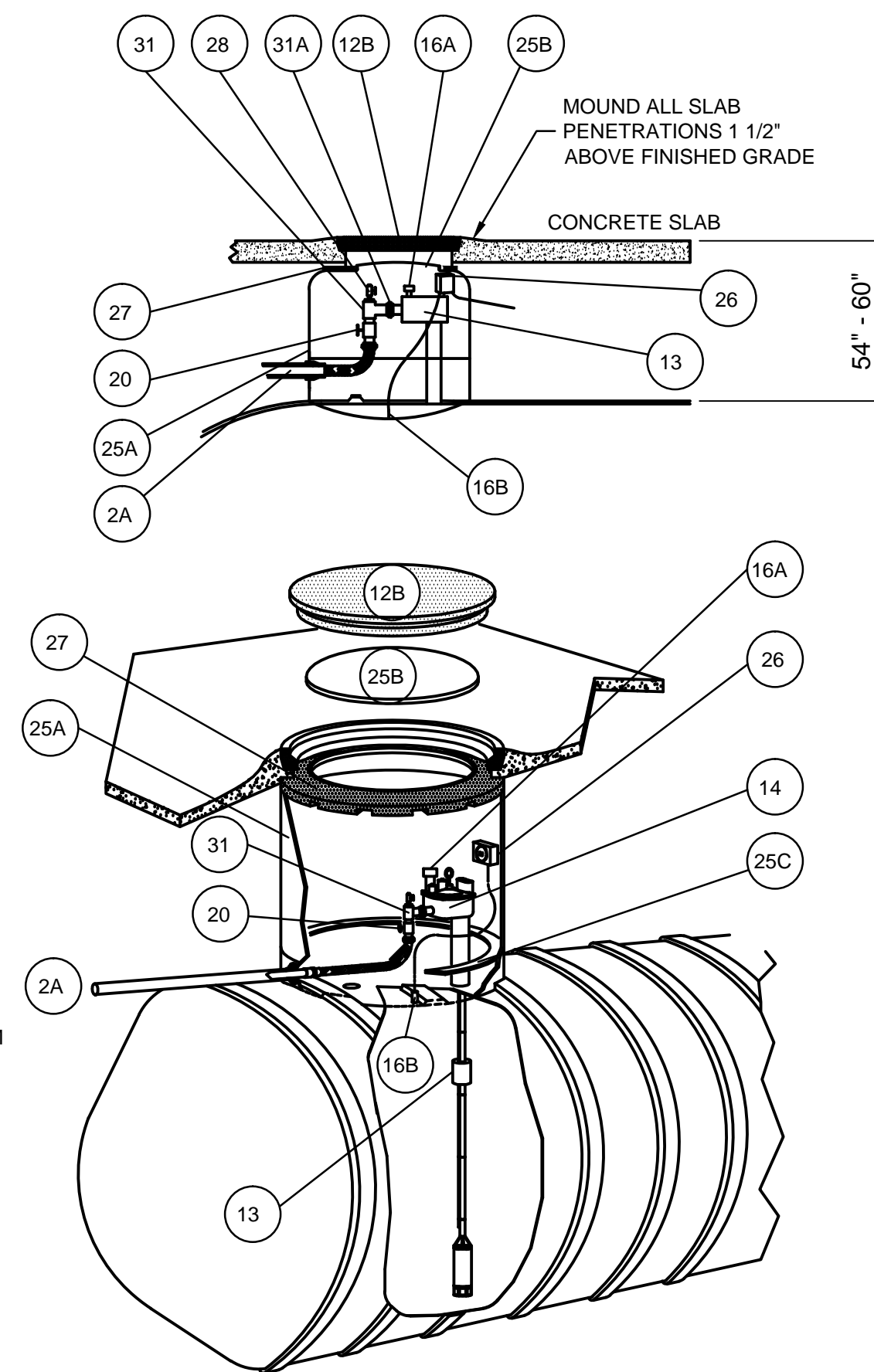
ALL PENETRATION FITTINGS TO BE INSTALLED WET

3 PIPING AND CONNECTION DETAILS  
SCALE: N.T.S.



4 HYDROSTATIC MONITORING DETAILS  
SCALE: N.T.S.

- 2A 2/3" DOUBLE-WALLED FIBERGLASS PRODUCT LINE
- 12B FL-36 36" FIBRELITE LID
- 13 TURBINE
- 14 FE PETRO VL Z LENGTH ADJUSTMENT DEVICE
- 16A ELECTRONIC LINE LEAK DETECTOR
- 16B ELECTRONIC LIQUID SENSOR, 1/2" MAXIMUM DISTANCE FROM LOWEST PART OF SUMP
- 20 2" JOMAR T-100, FULL PORT BALL VALVE
- 25A 48" SEALED FIBERGLASS SUMP BONDED TO TANK
- 25B SUMP CAP
- 25C BONDED FLANGE - NO BOLTS
- 26 EYS SEALOFF, X-PROOF J-BOX, AND CONDUIT
- 27 2 LAYERS OF 1" FOAM PADDING WITH DRAINAGE SLOTS IN BOTTOM LAYER
- 28 1/2 BRASS BALL VALVE WITH 1/2" BRASS OR STEEL PLUG
- 31 2" STEEL TEE WITH 2"x1/2" STEEL REDUCING BUSHING, ASTM A36 OR A576, SCHEDULE 40.
- 31A 2" 150# STEEL UNION WITH BRASS SEATS



VAPOR RECOVERY (NEITHER STAGE I NOR STAGE II) REQUIRED FOR DIESEL

5 TURBINE SUMP DETAILS  
SCALE: N.T.S.

FINALIZED DESIGN DEVELOPMENT - FOR CONSTRUCTION

CONSULTANTS:

ARCHITECT/ENGINEERS:



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A Veteran Owned Small Business

10940 South Parker Road  
Ste: 199  
Parker, Colorado  
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Drawing Title  
UST DETAILS

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